SIRTF/SSC Memo

To: SIRTF User Community
From: SSC
Date: 2000 June 30
Re: Special Overhead Burdens

This memo describes the extra overhead burdens to be assessed against the following special types of observations:

(i) high-impact and/or medium-impact Targets of Opportunities (ToO), as defined in SIRTF Observing Policy #5;
(ii) rapid three-instrument sequential observations of a target, as defined in SIRTF Observing Policy #1; and
(iii) Solar System targets with a late ephemeris change, as defined in SIRTF Observing Policy #1.

We remind you that these extra overheads are an estimate to be used for planning Legacy Science projects, Guaranteed Time Observations (GTOs), and Director's Discretionary Time (DDT) observations. They are based on our current best estimate of the *extra Observatory time* required to prepare for the observation and put the Observatory back into the nominal configuration. These overhead burdens do **not** include the time to execute the observation, or the assessed overheads for slewing the Observatory to the target.

These times can and will be modified based on a better understanding of the actual times required to execute such observations. Future modifications will likely be made in subsequent *Calls for Proposals*, and the numbers below will remain unchanged through the Legacy Science project selection. The special overhead burdens are based on estimates of how long it will take to switch instruments to accommodate requests in various scenarios, including end-of-campaign calibrations and shut-down, start-of-campaign activities and calibration, and repeats thereof as needed for multiple instrument sequential observations.

For ToO and three-instrument observation sequences, it is deemed that access to the source in a timely fashion is more important than the accuracy of calibration. The advantages of stable operations within a protracted instrument campaign are compromised in these ToO scenarios, and the observer needs to make sure that their data collection is sufficiently robust to meet their reliability and calibration accuracy needs.

In addition, the number of high-impact ToO observations that can be executed in any year is still undetermined, but is unlikely to exceed 'a few.' It is **very unlikely** that the SSC will attempt to execute any high-impact ToOs in the first six months of the SIRTF mission. The method for distributing ToOs among GTOs, General Observers and DDT observers has yet to be determined.

These categories of observations are as defined by the *SIRTF Observing Policies*. The current values for the special overhead burdens are listed below:

1 - High-impact ToO, single instrument: 6.5 hrs

This overhead must be applied to the first AOR in a group, chain, or sequence of AORs to be executed consecutively during a single observing session on the (single) Target of Opportunity.

Only a single science instrument may be used. The overhead presumes that an instrument change must be made.

2 - High-impact ToO, two or three instruments: 8.8 hrs

This overhead must be applied to the first AOR in a group of AORs to be executed consecutively during a single observing session on the (single) Target of Opportunity. Either two or three science instruments may be used if the observation is constrained in a manner (*i.e.*, the 'GROUP' constraint) which allows the instruments to be used in any order.

3 - Medium-Impact ToO, single instrument: 2.6 hrs

This overhead must be applied to the first AOR in a group, chain or sequence of AORs to be executed consecutively in the same observing session using a single science instrument.

4- Medium-impact ToO, two or three instruments: 5.2 hrs

This overhead is like example #2 above and must be applied to the first AOR in a group of AORs, as for the two or three instrument, high-impact ToO case.

5 - Late Ephemeris change: 0.5 hrs

This overhead is applied to the first AOR in a group, chain, or sequence of AORs that are to be executed on the same moving target consecutively during a single observing session, using a single science instrument. Usage of multiple instruments in addition to a late ephemeris update may incur additional special overheads (see #6 below).

6 - Three-Instrument sequential observations (not a ToO): 2.9 hrs

This overhead is applied to the first AOR in a group or sequence of AORs to be used on a single target in rapid succession. The overhead is based on scheduling the three-instrument group or sequence around a campaign boundary, and inserting a single short campaign to accommodate the third instrument.